



What comes next for LabVIEW

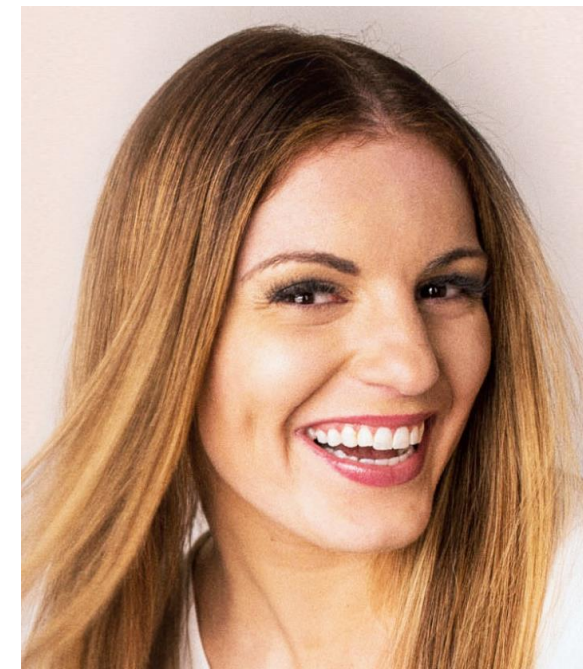
GDevCon N.A. – October 21, 2021

Eric Reffett

Chief Product Planner

#OurGiantsAreFemale

- Kristin Hadeed - <https://www.kristenhadeed.com/>
 - In 2006, 19 years old, founded “Student Maid”, a cleaning service that offering students a job and leadership experience
 - 2012, began a leadership development series focused on building people-first cultures
 - 2017, wrote “Permission to Screw Up” (How I learned to Lead by Doing (Almost) Everything Wrong
 - 2021, founded “Student Made”, a virtual education program teaching students how to support, empower, and value their teams



“I want to see a world in which students learn resilience, courage, confidence, and compassion.”



Eric Reffett
Chief Product Planner



Christina Rogers
Principal Product Owner



Deborah Burke
Software Planning Manager



Kiran Nagaraj
Principal Product Owner

Changes NI made in Q4 2020

Listening to our users

Concerns around migrating or rewriting years of LabVIEW code

Focus energies on addressing future test and measurement needs

NI will be taking the following steps

1. Integrate the strengths of LabVIEW NXG into LabVIEW 2021(+)
2. Continue to advance NXG-based portfolio of software
 - NXG Web Module has become “G Web Development Software”
 - SystemDesigner technology used to create Hardware Configuration Utility
 - Expand capabilities of FlexLogger and VeriStand
3. Discontinue separate LabVIEW NXG product
 - Last release was version 5.1 in 2021



FlexLogger™



InstrumentStudio™



LabVIEW™



VeriStand™



Digital Pattern Editor™



Block Diagram Enhancements

Improved Auto-wiring that leaves space for additional inputs*

Interoperability

Improved Python node now supports Python 3.6 through 3.9

Open Python Session function now takes an optional parameter for the path to the Python executable

Use MATLAB® Functions to call .m scripts from LabVIEW

Software Engineering

Improvements to workflow for comparing VIs and VI Hierarchies

Use LVCompare as a Git diff tool without a wrapper script

Distributing Applications

Improved dialog when publishing a feed to a SystemLink Server when using a self-signed certificate

Nicurl now uses the OS certificate store rather than its own HTTPS certification store

Improved User Experience

Warning will display before running “Run when Opened” VIs

Choose to show hidden controls while editing*

Notification will list what VIs will be aborted on quit/close*

Real-Time and FPGA

Undeploy builds from Real-Time Targets within the LabVIEW project

LabVIEW Real-Time Module for 64-bit

New CLIP IO Hierarchy option

Data Communications

Use the SFTP functions and nodes to securely interact with data and files on an SFTP server

OS Support

MacOS 11 (Big Sur) support

All LabVIEW Licenses include access to LabVIEW on any OS

*Feature inspired by the Idea Exchange



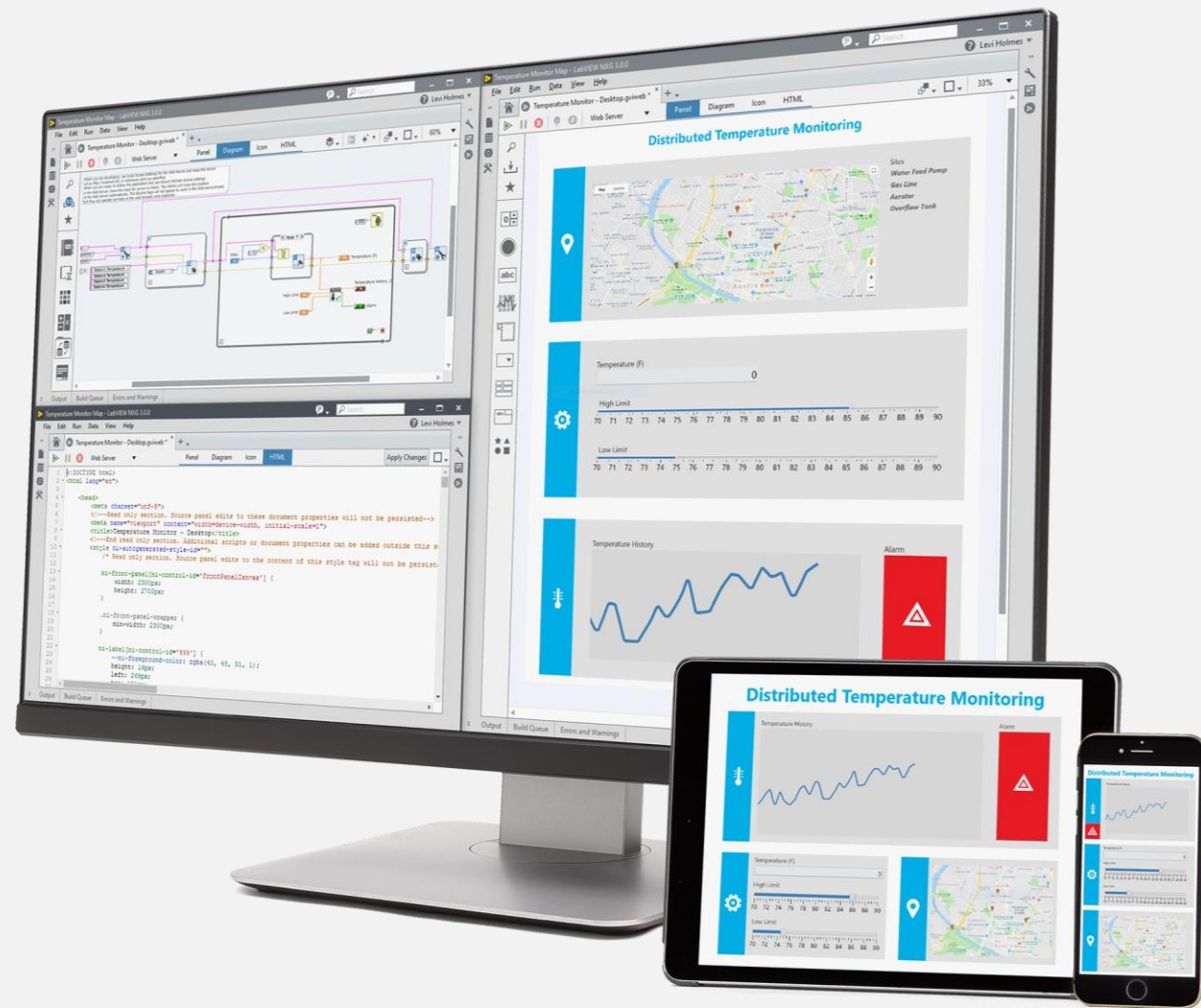
NEW FOR 2021

LabVIEW NXG Web Module is now G Web Development Software

Quickly create powerful Web Apps
with the graphical programming
language

View your Web Apps on any device
with a browser. No additional installs
required

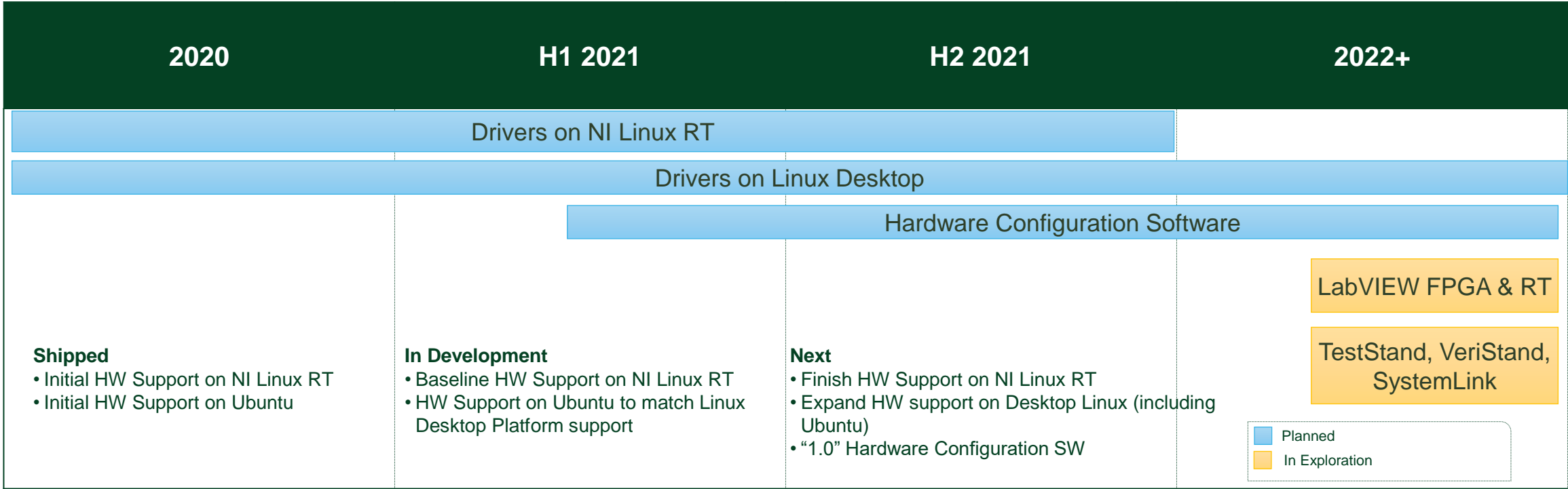
Easily share your Web Apps with
multiple hosting options



Linux | 2021 Roadmap

NI is expanding the investment in Linux across hardware and software support

- Linux perceived as secure, stable, flexible, and cheaper than Windows, and preferred for connected systems (Cloud, IoT, IT)
- Expect Linux RT as replacement for PharLap by EOY 2021
- Ubuntu to receive first-class Linux support
- Expect critical application software support across all Linux desktop OSes to follow driver support





[BETA] Hardware Configuration Utility for Linux

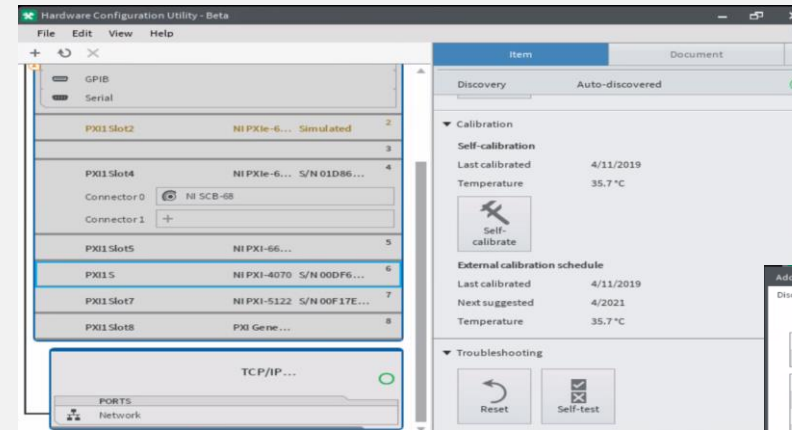
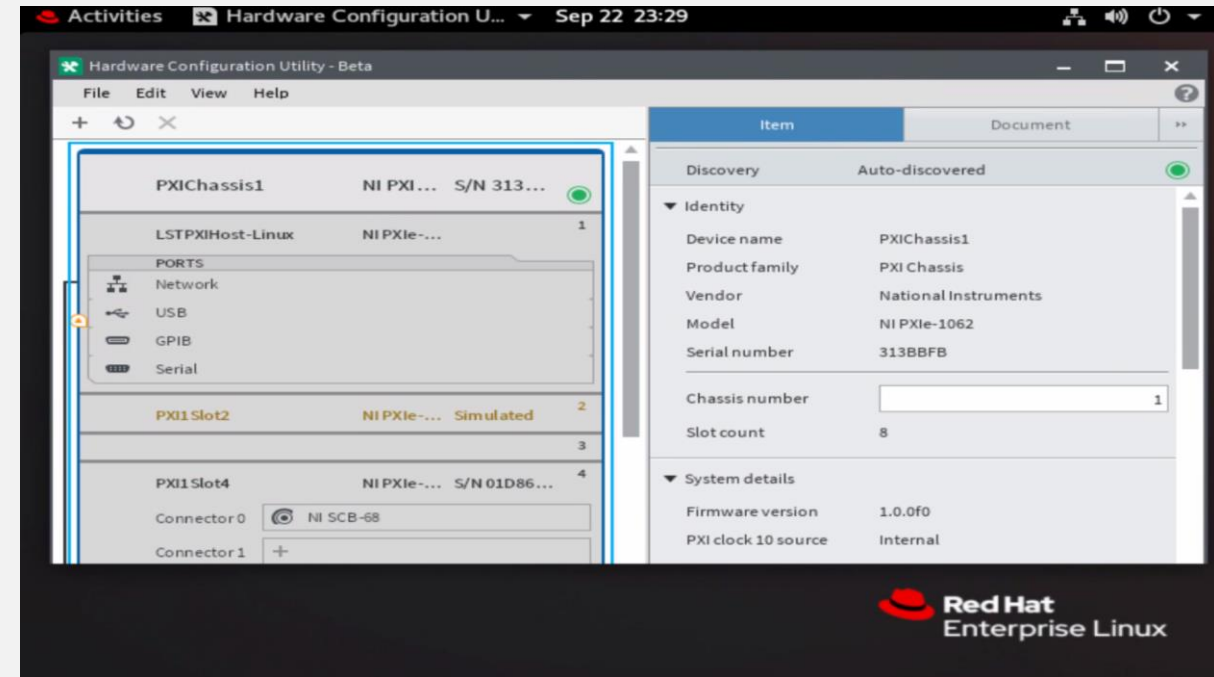
Unlock intuitive HW setup, discovery and validation

Can be installed via native package manager

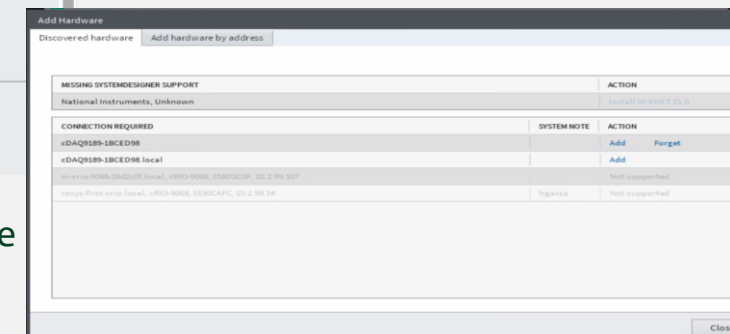
Support for RedHat and Ubuntu currently

To inquire about receiving and providing feedback for the Linux Beta Utility **type your name in the chat!**

Local Linux Desktop Support



Driver Support for PXI, Modular Instruments, GPIB, VISA, FlexRIO, and more



Quickly add and configure chassis, modules, and add-on HW

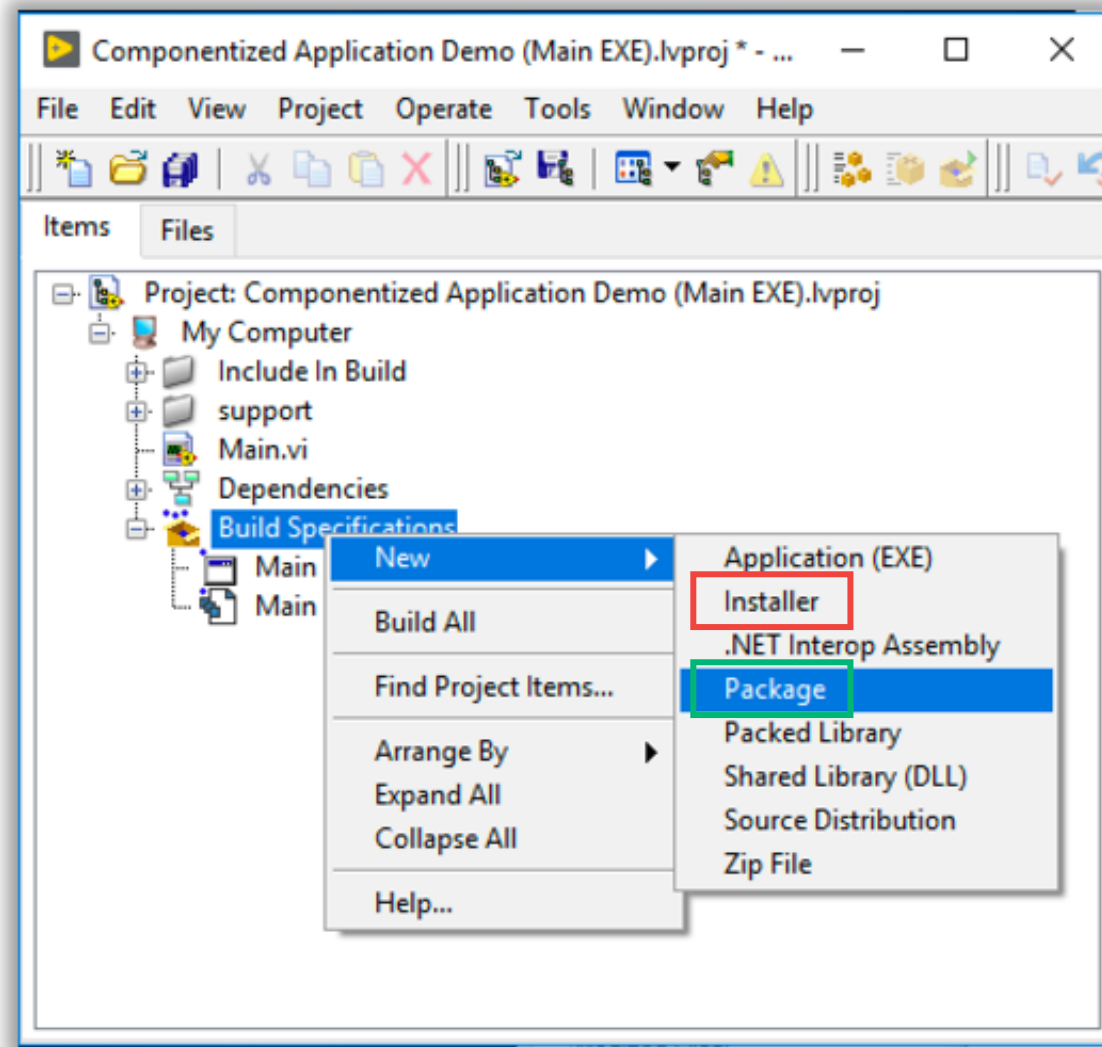
Installer Building in LabVIEW

NI has worked to transition our software installers from legacy technology to a package and feed-based technology.

LabVIEW build specifications currently supports both technologies for creating installers. The next step in this transition is to drop build specification support for legacy installers, and only support packages and feeds.

We are aware that the package-based technology is missing certain capabilities available with legacy technology. We would like to gather feedback about which capabilities are essential for your workflows to ensure a smooth transition.

Enter your name on the next poll question to discuss this topic more!



⚠ When survey is active, respond at pollev.com/devtoolsteam711

Installer Building in LabVIEW

— |

0 done

↻ **1 underway**

Start the presentation to see live content. For screen share software, share the entire screen. Get help at pollev.com/app



What is your greatest test & measurement software development challenge today?

Which LabVIEW NXG capabilities would you like to see incorporated into LabVIEW?

Project dependency management

Vector-based UI

Library namespacing and build process optimization

System Designer

Unicode support

Text-based file format

Integrated Math, Signal Processing, Analysis panels

Other



Which software development tools/languages is your primary tool/language?

LabVIEW (including modules)

Other NI Software

C/C++

Python



MATLAB

.NET/C#

VHDL

Web Technology (JS, CSS, HTML)

Other



Which software development tools/languages do you expect to use as your primary tool/language in the next 3-5 years?

LabVIEW (including modules)

Other NI Software

C/C++

Python

MATLAB

.NET/C#

VHDL

Web Technology (JS, CSS, HTML)

Other

3-5 years from now, how much of your day-to-day software usage do you predict will be done in a browser (as opposed to from a desktop application)?

All of my software usage will be done from a browser.

Most of my software usage will be done from a browser.

Some of my software usage will be done from a browser.

A little of my software usage will be done from a browser.

None of my software usage will be done from a browser.



Have you used the G Web Development Software before (previously known as the LabVIEW NXG Web Module)?

No, I haven't had a chance to try it yet.

Yes, but I am not confident in using it.

Yes, and I am comfortable using it.

No, and I don't plan to try it anytime soon.

I've never heard of this before.

Please rank the following LabVIEW investment areas in order of importance to you (most important at the top, least important at the bottom):

Improved Linux Desktop support (RT/FPGA development, additional toolkits, etc)

Data Communications Updates (gRPC, SSH, etc)

Additional 64-bit support (additional devices, etc)

Continuous Integration Workflows (better API/CLI, upgraded integration with Git, containerization options, etc)

LabVIEW FPGA (Newer devices, security features, etc)

LabVIEW RT (address class deployment gaps, Python node support, MATLAB deployment, etc)

Improved Package Management & Project Management workflows (make packages agnostic of LabVIEW version, enable projects to find/install their dependencies, assign package dependencies/versions in the project)

Updated editor UI experience (modern display devices, better GWeb Development integration, some type of zoom, etc)

Update Front Panel UI Controls (DataGrid, improvements to Graphs, integration with common/popular 3rd party UI tools, etc)

Localization (unicode support, better localization options, etc)

Improvements to PFLs (building, deploying, debugging, etc)

Something else

Please rate the following potential options that could be included in software purchases in the future, in order from the most impactful/important to you at the top, to least impactful/important at the bottom.

Access to alternative setup methods
(e.g. Containerization, like Docker)

Customer success and consulting
service credits

Purchase includes additional NI
software at the same price

Online data storage options

Other

If you selected "Other" for anything besides the least important option, what problem or need do you have that NI could help with, and how can we help?

When poll is active, respond at pollev.com/devtoolsteam711

Text **DEVTOOLSTEAM711** to **22333** once to join

If you don't renew SSP today, would any of the potential future options presented in the previous poll increase the value of SSP enough for you that you would renew in the future?

Yes

No

If you renew your SSP today, rank the following reasons for your renewal with the most important reason at the top, least important reason at the bottom:

New features and functionality in newer versions

Increased performance and reliability in patches and newer versions

Access to NI technical support

Downloads for older versions of LabVIEW

Online Training

Other

When poll is active, respond at pollev.com/devtoolsteam711

Text **DEVTOOLSTEAM711** to **22333** once to join

How many versions of LabVIEW do you typically have installed on your computers?

One, the most current

One, the version my current
project is written in

Two

Three or more

🌐 When poll is active, respond at **pollev.com/devtoolsteam711**

📱 Text **DEVTOOLSTEAM711** to **22333** once to join

What other types of software do you need for your test and measurement systems?

Requirements gathering

Test plan generation and traceability

No-code test software development

Test software deployment and configuration management

Test execution monitoring and optimization

Asset tracking

Equipment predictive maintenance

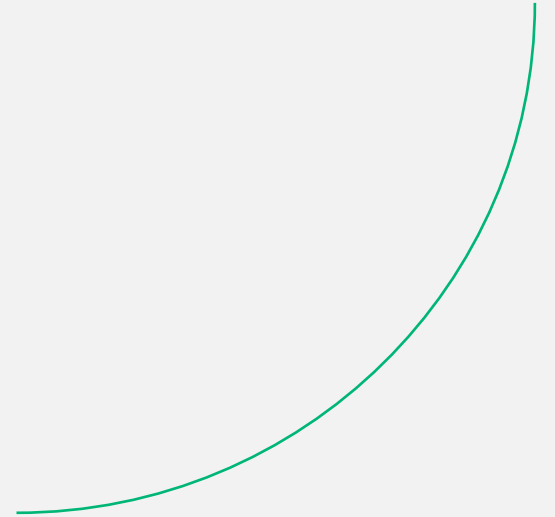
Test data storage

Online test data analytics

Manufacturing data analytics (Asset utilization / yield throughput)



Question & Answers



Questions?

- Please fill out our Event Survey for a chance to win one of two myRIO devices
 - <https://tinyurl.com/35k3rcsc>



⚠ When survey is active, respond at pollev.com/devtoolsteam711

Please give NI feedback on this presentation (Day2).

0 done

↻ **0 underway**

Start the presentation to see live content. For screen share software, share the entire screen. Get help at pollev.com/app